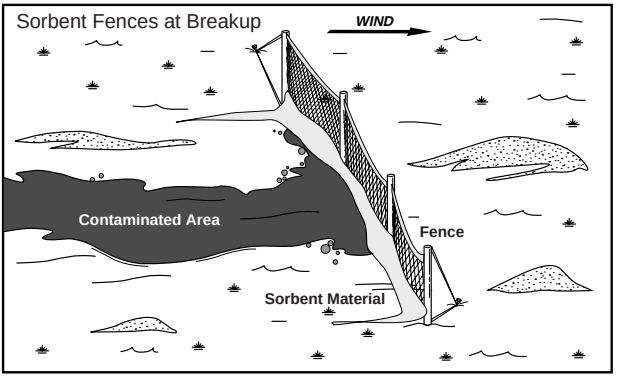

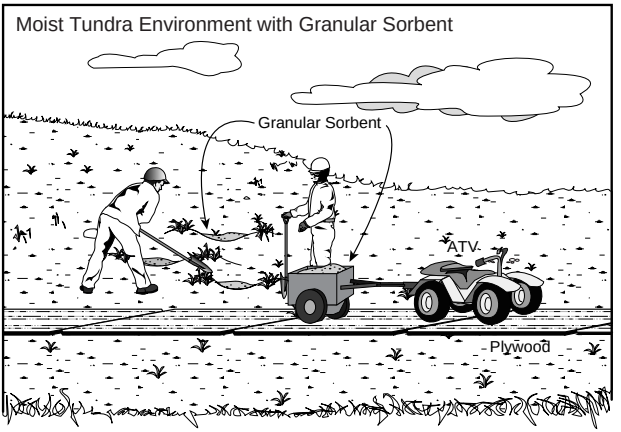

Sorbents can be used to pick up spill residuals from tundra. Determination of which sorbent material to use depends on the substance spilled, season, and availability. If water is not available for flooding or flushing, or if the site has a steep gradient or variable topography that cannot be boomed off effectively to contain flooding, spill residuals may be picked up with sorbents. The use of sorbents is labor-intensive. The physical damage to the tundra caused by deploying and recovering sorbent material must be carefully considered against the benefits of removing the residual.

Some examples of sorbent materials:

- Polypropylene sorbents (pads and boom material)
- Snow
- Granular sorbents (e.g., sawdust, cat litter)
- Straw

Use polypropylene sorbents on crude oil or oil-based substances directly on the tundra surface or on heavy sheen on standing water in wet or moist tundra or impoundments. Polypropylene sorbent boom can be fixed in position with stakes or fencing to collect floating product in wet tundra or to capture product floating on water draining off site.

Snow is a good sorbent material for recovering spill residues on tundra. Apply snow and recover snow/residue mixture using hand tools or heavy equipment (Tactic T-10) and remove for disposal. Other less absorptive materials like granular sorbents or straw may be used if snow is not available.

APPLICABILITY

	APPLICABILITY	COMMENTS
SPILLED SUBSTANCE	Crude oil, diesel, glycol, methanol, Therminol	• Fibrous polypropylene sorbents work well on fresh crude, light refined oils, and thick petroleum sheens, but are only partially effective on solidified or weathered oil, highly viscous oil, very thin sheens, or emulsified oil. • Sorbents are not effective for seawater or drilling fluid spills.
TUNDRA TYPE	All	• Prolonged labor-intensive work with sorbents on dry tundra may be counterproductive (dry tundra is most susceptible to physical damage and the effectiveness of sorbents can be fairly low).
SEASON	All	• Snow is a readily available sorbent in winter.

CONSIDERATIONS AND LIMITATIONS

- Effectiveness depends on the particular sorbent and the physical properties of the residual spilled product.
- Snow, granular sorbents, and straw are not effective for spill residue floating on water.
- Using sorbents is labor-intensive.
- Use of sorbents generates a great deal of waste that must be disposed of properly.
- Sorbent wringers can be used to extend the life of fibrous polypropylene sorbents.
- The use of snow and polypropylene sorbent fence, boom, and pads has been adapted from Tactics R-2, R-8, and R-9 in the *Alaska Clean Seas Technical Manual* (Alaska Clean Seas, 1999, Vol. 1). Information on the effectiveness of this tactic is based on field observations, not controlled experiments. No test data exist which document whether the use of sorbents results in long-term benefits to tundra restoration compared with other tactics, combinations of tactics, or "no action."

EQUIPMENT, MATERIALS, AND PERSONNEL

NOTE: Personnel typically work in pairs for sorbent deployment and recovery.

- Appropriate sorbent material – to collect spill residue
- Stakes or fencing – to secure sorbent boom to create a sorbent fence
- Shovels, rakes, pitchforks – for application and removal of granular sorbents
- Plastic bags or disposal drums – for collection of saturated sorbents
- Vehicle appropriate for tundra travel (optional) – to collect and transport saturated sorbent materials